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AUTHOR Crandall, Richard C.
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ABSTRACT

There has recently been a tremendous increase in the quantity of research published in gerontology. While the increase in the quantity of research has been regarded positively by gerontologists, there has been little discussion or evaluation of the quality of the research. Two articles that appeared in 1975 were both very critical of gerontological research published prior to 1975. Specifically these articles noted that the terminology used to describe subjects was ambiguous and overlapping; samples were small, non-random, and poorly described; and there was a lack of studies on minority groups. Both articles made recommendations for future research. To ascertain if the recommendations of these articles had an impact on those submitting articles, journal referees, or journal editors, this study examined research published in five gerontology journals between 1975-1980. This study found that the deficiencies noted in gerontological research published prior to 1975 were still present in research published between 1975-1980. The results indicate that the quality of research in gerontology is often inadequate. Guidelines for future research are made. (Author)

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CHARACTERISTICS OF RESEARCH APPEARING IN GERONTOLOGY JOURNALS BETWEEN 1975-1980

BY

RICHARD C. CRANDALL
DEAN OF INSTRUCTION
LAKE SUPERIOR STATE COLLEGE
SAULT STE. MARIE, MI 49783

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Introduction

Although debate continues as to whether gerontology is a profession, a field, a discipline, a proto-discipline, or a sub-field of other disciplines (see Levine, 1981), there is general agreement that gerontology has experienced rapid growth in the last decade. This growth is clearly reflected in the increase in the number of gerontology programs, courses, conferences, as well as in the amount of published research.

One very noticeable area of growth has been the increase in the number of gerontology journals. Prior to 1970, with the exception of the medical journals, the primary journals for those in the biological, social, and psychological sciences were those published by the Gerontological Society of America. During the 1970s and early 1980s a number of new gerontology journals came into existence. Some of them are: The International Journal of Aging and Human Development, Educational Gerontology, Research on Aging, Aging and Society, Aging and Work, the Journal of Clinical and Experimental Gerontology, Gerontology and Geriatrics Education, The Clinical Gerontologist, the Journal of Housing for the Elderly, the Journal of Gerontological Social Work, the Journal of Nutrition for the Elderly, Physical and Occupational Therapy in Geriatrics, and the journal of Activities, Adaptation, and Aging.

One result of this increase in published research has been that many widely held beliefs, facts, and theories about the aged have been challenged and often replaced by data and interpretations drawn from current research. Very often, the explanation for the conflicts between early and current research results has been that early gerontological research generated inaccurate beliefs, facts, and theories because researchers often did not follow accepted research procedures.

There is an excellent chance that the above explanation is correct. For example, two articles that reviewed the characteristics of research published in "psychological gerontology" between 1963-1974 both noted numerous deficiencies in the research and made recommendations for future research (see Seltzer, 1975; Abrahams et al., 1975). Some of the deficiencies noted were a lack of longitudinal studies, and that the samples used were too often non-random, small, and poorly described.

If current gerontological research has not corrected the problems noted above, then contemporary gerontologists may merely be substituting one set of inaccurate beliefs, facts, and theories for another.

There are at least two ways to prevent this continual cycle of discrediting and then replacing data in gerontology. The first is to have a set of guidelines by which research can be evaluated. The second is for gerontologists to evaluate colleague's work more critically. Admittedly, these ideas are hardly new. In fact, more than a decade ago Robert Binstock (see Cohen, 1980) pointed out that what gerontology needed was "...more scholarly muckraking, the exposure of shoddy research, the unmasking of investigators concentrating on old data over and over again, and some deliberate disclosure of superficiality which creeps into research from time to time." It was pointed out by Cohen (1980) that this was a "courageous if little noticed statement."

In comparison to research in most "professional" journals, gerontological research has been relatively immune from criticism. In part this immunity probably stems from the fact that gerontology is recognized as being multi-disciplinary and thus there has been greater tolerance and acceptance of what are considered the research methods of "other" disciplines. It may also stem from the fact that in the past there was not

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very much research conducted and published in gerontology, and gerontologists may have been more eager to read than to criticize. Or, it may stem from the fact that gerontologists are simply accustomed to an tolerant of substandard research.

It is this author's belief that the time has clearly arrived for journal editors and referees, and gerontologists to become more openly critical of published research in gerontology. This critical approach would also appear to be in concurrence with a recent statement by the 1980 editor-in-chief of the Journal of Gerontology, Harold Brody, who said that more articles were needed that reviewed the "...present state of gerontological research...." To date, very few articles have appeared that have reviewed the quality of research in gerontology and letters to the editor and comments and replies that are a major portion of other professional journals are relatively infrequent in gerontological journals. Although often painful to provide and receive, critical and/or review articles would improve the quality of published research in gerontology.

With that in mind, the purpose of this paper is twofold. First to analyze certain characteristics of selected articles appearing in five gerontology journals between 1975-1980 to ascertain if the "deficiencies" noted in the 1975 articles were still present between 1975-1980. Second to present some recommendations to serve as guidelines for future published research.

Method

To complete the first purpose of this paper the researcher examined all of the articles published in five gerontology journals between 1975-1980. The journals were: The Journal of Gerontology, The Gerontologist, the International Journal of Aging and Human Development, Research on Aging, and Educational Gerontology: An International Quarterly. Two of the journals started publishing after 1975 and thus data is provided from the first volume to 1980.

The articles were read and then placed into one of five categories: animal articles, theoretical articles, articles on the non-aged, articles on the aged, and articles on overlapping aged. The animal articles were those that utilized non-human organisms such as rats, mice, or fruit flies. The theoretical articles were generally those that offered a theoretical model or explanation, or a review of the literature. The non-aged articles were those in which the samples were composed of individuals under 60 years of age. Articles in the aged category consisted of those in which the samples were composed of individuals 60+ years of age (Note: If an article had two samples one under 60 years of age and the other 60+ years of age the article was classified as an "aged" articles and only the characteristics of the aged were reported). The last category is overlapping aged. This category consisted of articles in which the ages of those studied overlapped both the non-aged and the aged categories (e.g., 55-73). A summary of the total number of articles that fell into each category is shown below in Table I.

(Table I)

This study excluded from consideration the theoretical, non-aged, and animal articles. This left the overlapping and aged articles (N=695).

The Characteristics of Current Research In Gerontology

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This section of the paper will examine some of the characteristics of current research in gerontology. Specifically, this section will examine definitions, description of sample, sample design, sample size, selection of sample, and statistical power. This section will also examine certain sample characteristics for three time periods: 1975-76, 1977-78, and 1979-80.

Definitions

Definitions are, of course, the cornerstone of all disciplines. If terms are used in a consistent manner, researchers are better able to compare and contrast the results of their research. Both Abrahams et al., (1975) and Seltzer (1975) noted the lack of consensus among researcher in defining terms such as "young," "middle-aged," and "aged". Concerning this issue, Abrahams et al., (1975) said, "...it would be quite useful if some minimal criteria were established for age groupings and for age labels...." Seltzer (1975) added, "There needs to be some agreement about operational definitions of old and of young if data are to be comparable."

This research examined two characteristics of definitions used to describe subjects in the research that was analyzed. The first characteristic was the terms used to describe the subjects in the research and the second was the wide-range of chronological ages ascribed to the various terms. Table II shows some of the different terms used in the articles and some of the age ranges ascribed to those terms.

(Table II)

As Table II clearly illustrates, researchers, journal editors, and journal referees have utilized and accepted a wide-range of terminology as well as age ranges for that terminology. Depending on the researcher, a sample of individuals 55 years old could be classified as old, older, aged, elderly, geriatric, older adults, in senior adulthood, young-old, in late adulthood, in late middle age, in mid-life, middle aged, or young!

Recommendation One: It is clearly time that gerontologists, journal editors, and journal referees decide whom they are studying (e.g., aged, elderly, seniors, etc.) and the chronological age, or other salient characteristic(s) of this group. Admittedly, there are valid reasons for having flexibility in this area. For example, many researchers have noted the existence of "social age" or have asked for a classification based on "functional age" rather than chronological age. That is, a football player may be occupationally "old" at age 40, or a 60 year old marathon runner may have the physiological indicators of a 40 year old. Thus, the issue is complex. However, the complexity of the issue does not mean that researchers have to accept past practice. Rather, if flexibility is needed, then it would seem that the researchers who claim the need for this flexibility should be able to state why they have chosen the particular age range that they are using. That is, there must be an excellent rational - other than researcher convenience - for one researcher carefully selecting subjects between the ages of 55-82 while another will only accept subjects between the ages of 52-85.

It should be noted that a trend is currently emerging in the literature that addresses but hardly resolves the concern over the variety of terms used to describe subjects. The trend is to list only the age range of the sample being studied without assigning the sample a name. Although this trend eliminates the variety of terminology currently used, it does not address the issue of what is the aged group that gerontologists study, or what are the specific characteristics of this group. Nor does it

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address the very important issue of study comparability.

Description of Sample

The 695 articles were examined to find out the frequency with which the following characteristics were reported: gender, marital status, socio-economic status, educational level, race, ethnic identity, income, employment status, mental characteristics (this included information on factors such as morale scores, mental health, intelligence scores, etc.), physical characteristics (this included information on factors such as health, visual acuity, etc.), residence (rural/urban), residence (institution/home). Two points need to be made about the sample characteristics. First, all the characteristics examined have the potential of being important confounding variables. In fact, one of Seltzer's (1975) recommendations was that researchers needed to report "....the sex of the subjects, social class data, and demographic data other than age alone." Admittedly, some of the characteristics examined are much more important for certain research issues than others, but the majority of the characteristics examined have importance for the vast majority of research. Second, this paper did not demand tremendous rigor for an article to receive recognition as having reported the characteristic. For example, if the author mentioned that the subjects were mostly in "good health" or that the "SES levels of the aged and young samples were comparable," without listing the actual levels, or that the sample was composed of whites and blacks, without listing the percentages, that was sufficient to give the author credit for having listed that characteristic. The major point is that although many authors were given credit for having listed a certain characteristic, the usefulness of the information was at times limited.

Tables III through VII present an analysis of this data for 1975-76, 1977-78, and 1979-80.

(Insert Tables III through VII)

As can be seen from the tables, the journals had very different levels of reporting sample characteristics. For example, while only 15% of the articles in the Journal of Gerontology reported marital status, 70% did so in Research on Aging. Obviously, some of the variation in the reporting of sample characteristics was due to the "type" of journal, or the section within a journal, in which an article was published. In other words, there were many articles where it was not necessary to report certain sample characteristics. However, it was more often found that sample characteristics that should have been reported were lacking.

Since one of Seltzer's observations was that there existed "...a paucity of data concerning ethnic and racial differences," an analysis was also done to ascertain the number of articles that dealt with minority and ethnic groups. It was found that 9.35% of the articles claimed to have studied blacks. An additional 2.77% studied Mexican-Americans. Given the "racial" composition of the aged population, these figures appear to indicate that minority aged are studied with a frequency that corresponds to their representation in the aged population. However, when one takes into account that the only mention of the minority group aged may have been to note that they composed a certain percentage of the sample, then it becomes apparent that our knowledge of minority aged has not been advanced. A further analysis found that only nine articles were published that dealt entirely with blacks. The figures for other groups were: Mexican-Americans six, native Americans two, and Japanese and Chinese Americans one each.

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One additional point needs to be made concerning the racial composition of the samples. Namely, that in many articles the racial composition was at best ambiguous. Very often the terms used to describe the racial composition of samples were needlessly vague. Examples of the vagueness were: "mostly white," "predominately white," or "87% Caucasian. Some researchers did not bother to specify the racial composition but merely listed that the sample had a "wide-range" of racial groups.

A separate analysis of the gender of the samples was also completed. It was found that 12.08% (N=84) of the articles studied only males while 8.20% (N=57) examined only females. This trend was also mentioned by Seltzer (1975) who noted in her analysis of 42 articles that 12 were on men but only two one women.

Recommendation Iwo: Sample characteristics need to be reported with greater frequency, and more articles are needed on women and ethnic and minority group members.

Readers certainly have both the right and the need to know if the members of the sample being reported on are male or female, black or white, retired or working, in good health or poor health, or if they are living independently in the community or dependently in a nursing home. It takes very little space to report these characteristics, and there is the nagging curiosity of "why weren't they reported?" The inclusion of these characteristics seems so obvious that in reading an earlier version of this paper to an undergraduate senior level research class a student asked if perhaps journal editors were not responsible for the deletion to save space since their inclusion seemed so obvious; even a neophyte researcher.

The reluctance to report the sample characteristics is unfortunate when we take into account that one of the first "facts" that most undergraduate gerontology students learn is that the aged are a heterogeneous group. Even Palmore's "Quiz on Aging" lists the question, "In general, most old people are pretty much alike," as false. If the aged are in fact a heterogeneous group, then the author assumes that one of the purposes of research in gerontology is not simply to report on a non-descript group of "old" individuals but to try to ascertain differences based on sample characteristics.

In deference to several articles, it should be noted that many researchers indirectly reported sample characteristics. In describing their samples, they noted that its characteristics had been described in detail "elsewhere". An early attempt by this researcher to trace down the "elsewhere" sample characteristics proved at time to be very productive. However, generally this researcher was faced with the dilemma that the "elsewhere" articles were reported in foreign journals in foreign languages, in journals, books, monographs, or unpublished papers not readily available to most readers, that the "elsewhere" source did not describe the sample in any greater detail than the article under examination, or that in one case, the "elsewhere" source referred the researcher "elsewhere."

There are three additional problems with regard to sample characteristics that need to be corrected. First, when comparing a "young" and "old" sample, many of the articles used phrases such as "both groups have similar educational and SES levels." The problem was that the authors did not indicate whether the alledged similarity was, for example, a post-college education and a high SES or the reverse. Second, although many studies took the time to list several sample characteristics, most considered the sample as a whole in the analysis. That is, the researchers did not analyze the data in terms of sample characteristics and present the

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results separately for men and women, wealthy and poor, etc., but simply presented the results for the sample as though it were a homogeneous mass. This appears to be where many of the myths in gerontology have come from, namely researchers not taking the time to carefully separate and analyze their data. Third, although gerontologists cannot be accused of being ageists, there are some who, given the sex ratio for those 60+ years of age, and the percentage of minority aged, might accuse them of being sexist or perhaps racist. It is strongly recommended that more studies be conducted on aged women, and on minority and ethnic group members.

Design

Of the 695 articles, 22.15% (N=154) were longitudinal in design.

Recommendation Three: More longitudinal studies are needed.

There are, of course, valid reasons for conducting both cross-sectional and longitudinal studies, just as there are benefits and limitations involved in both. However, as Botwinick (1978) has pointed out, "It is clear that if it is not possible to carry out simultaneously both cross-sectional and longitudinal studies, then, all things being equal, the longitudinal study is the method of choice."

In assessing changes over time, researchers who conduct longitudinal studies can focus on maturational changes and worry less about cohort differences accounting for the variations. As Botwinik (1978) has noted, although researchers often plan to measure maturational changes, in cross-sectional studies, they may be measuring cohort differences. Furthermore, the statistical technique generally used to control for cohort differences, covariance, is considered inappropriate by many researchers.

Although about 22% of the studies examined were longitudinal in design, many other articles compared "young" and "old" age groups thus at least suggesting that many researchers who use cross-sectional designs would like to have the type of information generally provided by longitudinal studies.

Sample Size

Tables III through VII also report the sample sizes for the articles examined.

Recommendation Four: The sample sizes for many articles need to be increased.

There are, of course, many valid reasons to utilize small or large samples in research. It has been noted, for example, that for certain types of research a large sample may create "too much" statistical power. However, if gerontology is going to obtain more precise information about the aged, then studies will have to use samples that are large enough for them to ascertain if the results they are finding are due to age or to variables such as gender, socio-economic status, health, or work status.

Representative or Random Sample

The number and percentage of studies that reported using either a random or representative sample are reported in Tables III through VII. As can be seen, the journals examined reported very different levels.

Recommendation Five: More random and/or representative samples need to be utilized, especially in the psychological and biological areas. Although there are many "good" reasons to use non-random samples, and

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indeed a "true" random sample may be impossible to obtain since all human participants in research must be volunteers, the time has clearly arrived for researchers in gerontology to make more attempts at acquiring random and/or representative samples.

Statistical Power Analysis

Although it is an important issue, this article will not address the statistical methods used in the journals that are being examined. However, a recent article appearing in The Gerontologist is relevant for this paper and will be addressed, since some appear to have misinterpreted its results.

A recent study by Levenson (1980) found that articles on attitudes appearing in The Journal of Gerontology from 1946-1977 scored very high on statistical power analysis. Although Levenson's results are encouraging, his article has been interpreted by some as meaning "...the vast majority of studies published in the Journal of Gerontology had sufficient power to test their hypotheses." There are three points that Levenson makes that are relevant to this article and the evaluation of statistical power.

First, Levenson (1980) pointed out that "...closely related to the importance of power calculations are certain basic rules or assumptions underlying the use of statistical tests. First, data must be drawn in a random fashion...and second, the distribution of the population from which samples have been drawn is normal, or approximately normal, with equal variances." As has been clearly shown in this study, most of the articles examined did not utilize random samples.

Second, Levenson pointed out that "...the larger the N, the greater the power of the test." The mean number of subjects for the articles Levenson examined was 252. However, for the articles examined in this study only 18.70% of the articles used samples of 200+ individuals.

Third, Levenson pointed out that of the articles he found on attitudes that he was unable to analyze 27% of them because the researchers did not report the statistical tests used, or did not use statistical tests. Levenson concluded that, "Researchers, journal editors, and reviewers of manuscripts should be alert to the incomplete reporting of methodological and statistical information." (emphasis added)

The Changing Characteristics of Gerontological Research

This study has examined several characteristics of research published in five gerontology journals between 1975-1980. One of the questions that naturally comes to mind is, "did researchers, journal editors, and journal referees respond to the concerns expressed in 1975?" This question is important. Although both of the critiques of "psychological gerontology" limited the scope of their reviews, both noted that their findings could probably be generalized to the entire "field" of gerontology. For example, Seltzer (1975) said, "The field might well benefit from better adherence to norms of scientific behavior...." (emphasis added)

To answer this question, the sample characteristics previously examined were analyzed for three time periods: 1975-76, 1977-78, and 1979-80. If the "concerns" were responded to, then we should see an increase in the percentage of each of the sample characteristics examined in each successive time period. Tables III through VII report this information.

As can be seen, The Gerontologist was the only journal where "significant improvements" were seen (Research on Aging only started

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publishing in 1979). Thus overall the results indicate that many of the "concerns" present in 1975 were still present in 1980. In fact, in some instances the need for concern would appear to be greater in 1980 than in 1975.

Additional Recommendations

Three additional recommendations need to be made.

As was mentioned in the introduction, for gerontology to mature and grow, constructive criticism and lively debate is needed. This has been sorely lacking in the area of gerontology. Between 1975 and 1980 these five journals only published 67 letters to the editor (replies to letters were also included in this total). The value of many of these letters in advancing the scientific growth of gerontology is questionable. For example, fourteen of the letter were to the editor of a new journal congratulating the staff on the production of a needed, important, and quality journal. There were many other letters that differed in content but were similar in that they did not advance the growth of gerontology. In other words, 1,475 articles generated less than 67 letters/replies. Given the number of articles, and the quality of many of them, this seems an inordinately small number.

Recommendation Six: Gerontology journals should encourage more readers to respond to the articles that are published. The Gerontologist recently created a section called "The Forum" which has the potential to fill an important void in gerontology. The Gerontological Society of America's newsletter Gerontology News has also recently had an editorial (Hess, 1982) from a member criticizing the current status of gerontological research. Both of these are very positive signs and indicate that some needed changes will probably be made.

The next recommendation deals with reporting when the research was conducted. Obviously, many of the changes that have taken place in the last decade have had the impact of changing the aged population. Thus, research findings of a decade ago are no longer the findings of researchers conducting research in 1982. Although there are some types of studies where the year(s) the research was conducted in is not relevant, this is a variable that is relevant for most research. Readers have the right to know if the research is based on current data or left over data from a 1963 masters thesis.

Recommendation Seven: Researchers should be required to report the time period over which their data was collected.

The last recommendation is a controversial one; however, this author believes that there are valid reasons for recommending it. As we are all aware, there are many articles written that are never published. Articles are rejected by journal editors and referees for a variety of reasons, some of which are valid while others are "questionable." Crane (1970) has pointed out that journal editors may not be as unbiased as many would expect in selecting articles for publication. Perhaps this is to be expected since journal editors themselves are representative of certain theoretical backgrounds, and have preferences for certain methodological techniques over others; hence they look for manuscripts with these same characteristics. One of the problems with this is that "valuable" articles from individuals who may not share the same theoretical or methodological orientations may be excluded from publication.

Recommendation Eight: There should be a yearly listing in gerontology journals of the articles received and not accepted for publication. The

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listing should provide the the author's name, the title of the article, and an address where an interested researcher may obtain a copy of the article.

Although some may be appalled at having their "failures" listed, others may believe that their articles were unjustly rejected and thus welcome the opportunity to have others obtain a copy of their work.

Summary

Even after two excellent articles appeared in 1975 pointing out the deficiencies in gerontological research, the problems still existed in 1980 and one can state without hesitation that "the quality of research in gerontology is still strained!"

It currently appears that many samples are obtained more on the basis of researcher convenience than upon any acceptable scientific standards. This makes it difficult if not impossible to compare research results. The non-randomness of the samples also means that gerontologists must be careful about generalizing from the results.

It still appears that we know virtually nothing about the aged members of ethnic and racial groups and more studies are needed on aged women.

Additionally, researchers are still reluctant to report the characteristics of their samples.

The time has clearly arrived for gerontologists to stop publishing research submitted by researchers who are only capable of gathering data on small, non-random, poorly described groups of individuals conveniently labeled "aged".

Eight recommendations for future research are made.

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Table I
Classification of Articles

	N	%
Animal	113	7.66
Theoretical	598	40.54
Non-Aged	69	4.67
Aged	540	36.61
Overlapping	155	10.50

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Table II
Terminology and Age Ranges
Used to Describe Subjects

Term	Examples of Age Ranges
Aged	47-92, 52-74, 53-96, 55-97, 60+, 65+
Elderly	46-79, 50+, 52-86, 54-83, 55+, 60-89, 65-84, 67-95
Old	50-70, 53-91, 55-80, 60-79, 65-76
Older	45-82, 50+, 50-90, 51-57, 53-72, 55-77, 60-76, 65+
Geriatric	45+, 48-94, 50-77, 53-91, 55-70, 65+
Senior	60+, 64-79
Older Adult	45-65, 55+,
Older Person	58-60
Older American	55-102
Later Adulthood	46-86
Late Adulthood	65+
Senior Adulthood	50+, 65-86
Young Old	55-70, 55-74, 65-79
Old Old	71-85, 75+, 80+
Very Old	80-94
Old Middle Age	50-64
Late Middle Aged	45-64
Mid Life	25-64
Middle Aged	30-59, 35-49, 35-54, 40-59, 39-51, 45-51, 45-54
Early Middle Aged	35-44
Young Adult	31-47, 21-39
Younger	Under 7, 18-30, 18-39, 20-50, 30-65
Young	18-60, 18-25, 20-58, 21-49, 17-38, 18-24, 17-25, 21-49, 24-34
Respondents	60-80
Adult	21-55

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Table III
Journal of Gerontology

	1975-76		1977-78		1979-80		Totals	
	N	%	N	%	N	%	N	%
Animal	47	26.40	33	18.75	33	18.33	113	21.16
Theoretical	17	9.55	15	8.52	14	7.77	46	8.61
Non-Aged	7	3.93	5	2.84	6	3.33	18	3.37
Aged	76	42.69	94	53.40	105	58.33	275	51.49
Overlapping	31	17.41	29	16.47	22	12.22	82	15.35
	N=107		N=123		N=127		N=357	
Longitudinal	25	23.36	36	29.27	24	18.90	85	23.80
Random	20	18.69	15	12.20	31	24.41	66	18.48
Sample Size								
?	3	2.80	2	1.63	2	1.57	7	1.96
1- 24	22	20.56	28	22.76	42	33.07	92	25.77
25- 49	12	11.21	21	17.07	16	12.60	49	13.72
50- 74	17	15.89	15	12.20	13	10.24	45	12.60
75- 99	12	11.21	5	4.07	6	4.72	23	6.44
100-199	14	13.08	18	14.63	23	18.11	55	15.40
200-299	5	4.67	4	3.25	6	4.72	15	4.20
300-399	3	2.80	10	8.13	5	3.94	18	5.04
400-499	2	1.87	4	3.25	1	.73	7	1.96
500+	17	15.89	16	13.01	13	10.24	46	12.88
Sample Characteristics								
Gender	86	80.37	91	73.98	89	70.08	266	74.50
Marital	16	14.95	17	13.82	20	15.75	53	14.84
SES	21	19.63	19	15.45	24	18.90	64	17.92
Education	38	35.51	39	31.71	46	36.22	123	34.45
Race	25	23.36	24	19.51	31	24.41	80	22.40
Ethnic	6	5.61	2	1.63	2	1.57	10	2.80
Income	12	11.21	14	11.38	10	7.87	36	10.08
Employ	16	14.95	15	12.20	12	9.45	43	12.04
Psychol	30	28.04	30	24.39	35	27.56	95	26.61
Physical	41	38.32	62	50.41	58	45.67	161	45.09
Urban/R	8	7.48	8	6.50	15	11.81	31	8.68
Inst/Home	49	45.73	57	46.34	51	40.16	157	43.97

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Table IV
The Gerontologist

	1975-76		1977-78		1979-80		Totals	
	N	%	N	%	N	%	N	%
Animal	0	0	0	0	0	0	0	0
Theoretical	134	65.04	89	55.62	107	64.45	330	62.03
Non-Aged	8	3.88	7	4.37	8	4.81	23	4.32
Aged	54	26.21	55	34.37	35	21.08	144	27.06
Overlapping	10	4.85	9	5.62	16	9.63	35	6.57
	N=32		N=64		N=51		N=179	
Longitudinal	16	25.00	18	28.12	10	19.60	44	24.58
Random	8	12.50	5	7.81	6	11.76	19	10.61
Sample Size:								
?	9	14.06	5	7.81	7	13.72	21	11.73
1- 24	6	9.37	3	4.68	6	11.76	15	8.37
25- 49	7	10.93	5	7.81	4	7.84	16	8.93
50- 74	7	10.93	6	9.37	3	5.88	16	8.93
75- 99	1	1.56	9	14.06	3	5.88	13	7.26
100-199	8	12.50	10	15.62	8	15.68	26	14.52
200-299	11	17.18	9	14.06	3	5.88	23	12.84
300-399	3	4.68	5	7.81	4	7.84	12	6.70
400-499	4	6.25	3	4.68	5	9.80	12	6.70
500+	8	12.50	9	14.06	8	15.68	25	13.96
Sample Characteristics:								
Gender	42	65.62	33	51.56	32	62.74	107	59.77
Marital	8	12.50	22	34.37	23	45.09	63	35.19
SES	9	14.06	11	17.18	11	21.56	31	17.31
Education	11	17.18	18	28.12	12	23.52	41	22.90
Race	15	23.43	19	29.68	15	29.41	49	27.37
Ethnic	3	3.68	4	6.25	4	7.84	11	6.14
Income	15	23.43	30	46.87	18	35.29	63	35.19
Employ	9	14.06	14	21.87	12	23.52	35	19.55
Psychol	18	28.12	23	35.93	15	29.41	56	31.28
Physical	17	26.56	29	45.31	22	43.13	60	37.98
Urban/R	7	10.93	12	18.75	4	7.84	23	12.84
Inst/Home	36	56.25	31	48.43	39	76.47	106	59.21

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Table V
International Journal of Aging
and Human Development

	1975-76		1977-78		1979-80		Totals	
	N	%	N	%	N	%	N	%
Animal	0	0	0	0	0	0	0	0
Theoretical	39	53.42	32	50.00	11	21.56	82	43.61
Non-Aged	2	2.73	6	9.38	2	3.92	10	5.31
Aged	21	28.76	18	28.12	30	58.82	69	36.70
Overlapping	11	15.06	8	12.50	8	15.68	27	14.36
	N=32		N=26		N=38		N=96	
Longitudinal	6	18.75	1	3.84	6	15.78	13	13.54
Random	5	15.62	2	7.69	9	23.68	16	16.66
Sample Size:								
?	2	6.25	1	3.84	2	5.26	5	5.20
1- 24	4	20.00	4	15.38	5	13.15	14	14.58
25- 49	4	20.00	2	7.69	4	10.52	10	10.41
50- 74	5	15.62	3	11.53	8	21.05	16	16.66
75- 99	2	6.25	1	3.84	3	7.89	6	6.25
100-199	9	28.12	6	23.07	5	13.15	20	20.83
200-299	2	6.25	1	3.84	1	2.83	4	4.16
300-399	0	0	4	15.38	2	5.26	6	6.25
400-499	1	3.12	1	3.84	1	2.63	3	3.12
500+	3	9.37	3	11.53	7	18.42	13	13.54
Sample Characteristic:								
Gender	22	68.75	18	69.23	27	71.05	67	69.79
Marital	8	25.00	2	7.69	8	21.05	18	18.75
SES	10	31.25	8	30.76	9	23.68	27	28.12
Ed	9	28.12	6	23.07	13	34.21	28	29.16
Race	6	18.75	10	38.46	9	23.68	25	26.04
Ethnic	0	0	2	7.69	1	2.63	3	3.12
Income	5	15.62	2	7.69	6	15.78	13	13.54
Employ	6	18.75	6	23.07	4	10.52	16	16.66
Psychol	19	59.37	10	38.46	14	36.84	43	44.79
Physical	11	34.37	7	26.92	17	44.73	35	36.45
Urban/R	4	12.50	1	3.84	3	7.89	8	8.33
Inst/Home	19	59.37	10	38.46	27	18.42	56	58.33

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Table VI
Educational Gerontology

	1976		1977-78		1979-80		Totals	
	N	%	N	%	N	%	N	%
Animal	0	0	0	0	0	0	0	0
Theoretical	21	60.00	47	74.60	50	75.75	118	71.95
Non-Aged	2	5.71	5	7.93	6	9.09	13	7.92
Aged	8	22.85	9	14.28	8	12.12	25	15.24
Overlapping	4	11.42	2	3.17	2	3.03	8	4.87
	N=12		N=11		N=10		N=33	
Longitudinal	1	8.33	1	9.09	1	10.00	4	12.12
Random	1	8.33	1	9.09	2	20.00	4	12.12
Sample Size:								
1 - ?	0	0	1	9.09	1	10.00	2	6.06
1- 24	4	33.33	2	18.18	2	20.00	8	24.24
25- 49	2	16.66	0	0	1	10.00	3	9.09
50- 74	0	0	0	0	0	0	0	0
75- 99	1	8.33	1	9.09	1	10.00	3	9.09
100-199	2	16.66	1	9.09	2	20.00	5	15.15
200-299	2	16.66	1	9.09	0	0	3	9.09
300-399	0	0	0	0	0	0	0	0
400-499	1	8.33	0	0	0	0	1	3.03
500+	0	0	1	9.09	3	30.00	4	12.12
Sample Characteristics:								
Gender	9	75.00	7	63.63	8	80.00	24	72.72
Marital	2	16.66	2	18.18	3	30.00	7	21.21
SES	3	25.00	1	9.09	1	10.00	5	15.15
Education	6	50.00	4	36.36	3	30.00	13	39.39
Race	4	33.33	2	18.18	2	20.00	8	24.24
Ethnic	0	0	0	0	0	0	0	0
Income	1	8.33	0	0	0	0	1	3.03
Employ	2	16.66	1	9.09	2	20.00	5	15.15
Psychol	3	25.00	3	27.27	5	50.00	11	33.33
Physical	2	16.66	1	9.09	1	10.00	4	12.12
Urban/R	0	0	1	9.09	1	10.00	2	6.06
Inst/Home	1	8.33	2	18.18	4	40.00	7	21.21

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Table VII
Research on Aging

	1979-80 N	%
Animal	0	0
Theoretical	22	38.59
Non-Aged	5	8.77
Aged	27	47.36
Overlapping	3	5.26
	N=30	
Longitudinal	8	26.66
Random	23	76.66
Sample Size:		
?	1	3.33
1- 24	0	0
25- 49	2	6.66
50- 74	0	0
75- 99	0	0
100-199	3	10.00
200-299	3	10.00
300-399	2	6.66
400-499	0	0
500+	19	63.33
Sample Characteristics:		
Gender	19	63.33
Marital	21	70.00
SES	11	36.66
Education	17	56.66
Race	11	36.66
Ethnic	1	3.33
Income	7	23.33
Employ	5	16.66
Psycho.	4	13.33
Physical	6	20.00
Urban/R	4	13.33
Inst/Home	15	50.00

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